

**Mission Bay Landfill
Technical Advisory Committee
City Administration Building
12th Floor Conference Room B
March 18, 2005
10:00am to 12:00pm**

Revised Meeting Minutes

TAC Members Present

Donna Frye
Robert Curtis
Jeffrey Gordon, MD

Dave Huntley Ph.D.
Barry Pulver
Judy Swink

David Kennedy, DDS
Frank Gormlie

TAC Members Absent

Bruce Reznik
John Wilks
Brain McDaniel

Robert Tukey Ph.D.
Rebecca Lafreniere

Ben Leaf

Interested Parties/Alternates

Scott Andrews
Kathleen Blavatt
Hiram Sarabia
John Fields
Trudy Wood

Jace Miller
George Murphy
Susan Orlofsky
Jace Miller
Paul Damian

Samir Mahmalji
Tessa McRae
Scott Andrews
Pat Owen

Staff

Steven Fontana
John Lamb

Ray Purtee
Sylvia Castillo

Chris Gonaver

The meeting was called to order by Councilmember Frye. Self introductions were made. A quorum was present.

Tessa McRae provided Hiram Sarabia examples of some of the EPA methods and SOP's used by SCS in the field investigation. If anyone else wants copies they can contact Judy Armstrong for them. Hiram stated that he wants these to be in the final report.

Approval of Minutes

Discussion of the minutes centered on page three concerning potential future proposals for hotel development. Chris Gonaver said that any potential health risks for future development at the site would be evaluated by the County Department of Environmental Health. Other comments included there needed to be checks and balances on any proposed development for the landfill; and the masterplan shows what development is envisioned for the area.

The February meeting minutes were reviewed and approved with no changes.

Non Agenda Public Comment

A UCSD student science project covered by local media occurred Tuesday and Wednesday March 15 & 16 at the Mission Bay landfill site. Students from an art & technology class modified toy robotic dogs by adding VOC sensors to their snouts, enhancing their mobile capabilities and altering their programming. Then the dogs were let loose near the flyer's airfield. While the results were far from clear, the project was successful in involving people with the media, science, landfills, and recycling (of toys). The instructor is Natalie Jeremijenko and has been asked to come to a TAC meeting.

Risk Assessment

Dr. Damian of SCS Engineers gave a PowerPoint presentation on the Mission Bay landfill site's Ecological Risk Assessment (ERA) process. Since the PowerPoint slides will be made available to the group, these minutes will concentrate on the questions asked and the responses made during the presentation:

Q. You made reference to a report by Merkle and Associates. Has this document been made available to us? A. No, this biological assay was to be included in the final report.

Q. If we're using the Merkle report to choose species for the ERA then we should see the report before we vote on the ERA. A. SCS will make the Merkle report available to the TAC.

Q. Are least terns in this area? Use an endangered species instead of the killdeer. A. Trained biologists surveyed the site for the presence of endangered species. The representative eco-receptors chosen for the ERA are:

- ground squirrel(burrowing mammal)
- mourning dove(ground dwelling bird)
- killdeer(insectivorous bird)
- northern harrier (carnivore) or red tailed hawk

Q. Why aren't mollusks included? A. An existing study on mollusks will be reviewed, but the problem would be how to quantify landfill leachate concentrations in the bay.

Q. Then sediments should be looked at. A. Sediments will be analyzed and compared to ecotoxicological benchmarks.

Q. Is there a biological study of fish or mollusks in this study?

A. No, all targets are terrestrial, marine life such as fish or mollusks will not be included in this study.

Q. How will you address bio-accumulation? A. The killdeer is a shorebird and thru its diet bio-accumulation will be addressed in the ERA.

Q. What are impacts of surface water quality to marine life? A. This can be answered but what is the landfill's contribution? Question is how to model mixing and flux of leachate into the bay?

Q. Are there mussel watch stations along the riprap of South Shores and could mussel watch report results be compared? A. City staff will look at historical mussel watch data to see where they were placed in the bay and what was tested and report back to the TAC.

Q. Dr. Huntley questioned the response that it's difficult to do modeling of the bay. There is data available to begin modeling efforts such as historical sewer spills and resulting cleanup flux, and to this can be added a calculation of the flux of hydrological sediments. He agrees that it would be difficult to distinguish between landfill contaminants and those from elsewhere. A. A

sewage spill to the bay is a point source while the landfill would represent a continuous, broad front of leaching. We would need to model the flux of groundwater across the front of the landfill. However, to first determine if this modeling is even necessary, we should compare sediment and surface water contaminants to water quality criteria to determine eco-risk levels; if they are above, then have a second tier, further ERA. In this Tier 2 ERA, landfill contribution modeling to the bay could be performed.

A motion was made and approved to have SCS compare surface water and sediment contaminant levels to eco-risk benchmarks to determine whether contaminant levels exceed the benchmarks. If contaminant levels exceed the benchmarks then SCS will determine the cost of modeling the flux of groundwater contaminants from the landfill to the bay and City staff will research any existing SWRCB reports for bay contaminant levels reported.

Q. Is the City part of the mussle watch program? A. No, it is a State program, but City staff will check on the status of the mussle watch program and available data.

Q. Dr. Gordon thinks that the problem of bio-accumulation is inherent in the problem of the landfill and is not reflected in the ERA. Note any uncertainties within the precautionary principle. A. The ERA will identify those compounds that are bio-accumulative, but how to attribute the accumulation to the landfill? For instance Least Terns could feed at landfill but also elsewhere around bay.

Q. Hiram feels this risk assessment only covers terrestrial targets and should consider a representation of marine organisms in addition to bioaccumulation. A. First step should be to compare contaminant levels as discussed in the earlier motion.

Q. Are eco-tox benchmarks specific to species or general? A. Tend to be general to protect invertebrates such as plants, birds, etc. We could evaluate Least Terns based on a diet coming only from the landfill.

Q. We would not like to force Least Terns into our model if they're not out there. A. City staff will discuss this with Jim Peugh or other biologists to see if Least Tern was observed out there and will check the Merkle bio-assay.

A motion was made and approved to accept the list of representative biological receptor populations with the possibility of adding the Least Tern (after verifying that they eat insects) and/or a pelican after verifying with Jim Peugh that these birds are out there:

- ground squirrel (burrowing mammal)
- mourning dove (ground dwelling bird)
- killdeer (insectivorous bird)
- northern harrier (carnivore)

Q. I've seen more rabbits than squirrels so why aren't rabbits used? A. EPA guidelines say that when soil gas is present squirrels are the species to use for "burrowing mammal." Prevalence is usually not a consideration in choosing a receptor population.

Q. Is a squirrel more sensitive than a rabbit to toxics? A. Database treats them the same in this regard.

Q. In regards to the absence of marine targets, has it been concluded that no contaminants have migrated from the landfill to the bay? A. Groundwater flow is South to North through the landfill, so groundwater flow is from the landfill to the bay.

Q. Then why are there no marine targets? A. The problem would then be how to ascertain the landfill's contribution to water contaminant levels?

Q. The question of using marine targets could be pointless until we have compared contaminant levels to eco-tox benchmarks. If these are lower than the benchmarks, then there will be no COPC's and no exposures. SCS could email out to the group the results of the comparison.

A. Initial list will be anything detected then comparison will be made to COPC's and benchmarks. This will be shown in the ERA report.

Q. Is there tidal data showing when the groundwater flux is reversed; from bay to river? What about a release to the river? A. What we are concerned with is the "net flux" because that determines where contaminants will end up going. SCS will use the net flux. Now back to the presentation concerning relevant exposure pathways.

A motion was made and approved that one of the relevant exposure pathways will include soil gas exposure.

Q. In the Merkle report was Jim Peugh contacted? A. I don't know and will have to check.

In closing out the ERA presentation Dr. Damian reminded the group that this is a theoretical calculation of risk based on empirical data. We will not be dissecting birds, etc. and measuring contaminant levels within them.

Dr. Damian then addressed the Precautionary Principle (PP) in the HRA. These were part of his Powerpoint presentation and the slides will be shared with the group.

Dr. Gordon stated that unknowns and uncertainties should be recognized in the risk assessment by inclusion of the precautionary principle. For example, in the last fifteen years, benchmarks for acceptable levels of toxins in blood have been reduced by a factor of ten. He handed out an article entitled "EPA Distorted Mercury Analysis, GAO Says." He felt that how SCS will use the data they've gathered is as important as what conclusions they draw from it.

Dr. Damian passed out several handouts. One was a page from an article showing how Health Canada incorporated the PP in risk assessment. Another was entitled "Additional References for HRA Exposure Parameter Table 1." And the last was a guide with a section entitled "Comparison of Concentrations Detected in Trip Blanks With Concentrations Detected in Samples." He concluded his PP presentation with a request for any additional questions on PP?

Discussion ensued and comments included the following:

There is great uncertainty in synergistic effects combining toxicities of various combined chemicals.

It's a good idea to have the TAC review the draft report and how to incorporate the PP.

Can Dr. Damian return to the next TAC and continue discussion on the PP? To which the answer was "Yes."

Future hotels and uses of the site should be on a future TAC agenda; though others felt this is addressed in the masterplan.

Aside from the Merkel report, are there any other work products SCS has completed to share with the group? To which the answer was "No."

Hiram stated that Ann De Pyster was contacted to review the criteria of the risk assessment but she didn't have time to review this for the group.

Items for next agenda

- How to apply Precautionary Principle to Health Risk Assessment

Future Meetings

City Administration Building, 12th Floor Conference Room B, 10:00am – 12:00pm

- Friday, April 15, 2005
- Friday, May 20, 2005